REMARKS

Applicant is in receipt of the Office Action mailed March 26, 2004. Claims 1-22 were pending in the Application. Claims 1-22 were cancelled. Applicant has added new claims 23-67 to more accurately characterize the claimed invention. Applicant believes that these new claims are allowable as currently written. Further consideration of the present case is earnestly requested in light of the following remarks.

Section 102 Rejection

Claims 1, 3-5, 11-13, 16-17, and 19-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by Mulholland et al., (U.S. Patent Number 5,654,905), referred to herein as Mulholland. Claims 1-22 were cancelled and new claims 23-67 have been added. Applicant respectfully traverses these rejections based on the following reasoning.

New Claim 23

New claim 23 recites:

> "A method for a scheduled execution of a target function by a processor of a computer at predetermined times, wherein the processor comprises a first interrupt input operable to receive a first interrupt signal, the method comprising:
>
> executing a start function, wherein the start function is executed by the processor as a first interrupt service routine, wherein the start function is executed in response to triggering of the first interrupt signal;
>
> the start function repeatedly reading a computer register to obtain a read value;
>
> the start function comparing the read value with a reference value, wherein the reference value corresponds to a predetermined time;
>
> executing the target function in the processor, wherein the start function is operable to initiate said executing the target function."

The Office Action equates Mulholland's setting up of a DOS-based TSR (Terminate and Stay Resident) program to the polling method of claim 23, which contains the subject matter of the cancelled claim 1. Applicant respectfully disagrees. Mulholland in col. 5, line 24 describes:

> "In any case, the Initialize function then updates the log file at a step 126 so that it contains the current set of logged variables. At this time, the Initialize function

also calculates the number of ticks required per interval (IntervalTicks), and sets the TicksLeft variable to this number. IntervalTicks is equal to IntervalMinutes multiplied by 1,091, which closely approximates the 1,090.9 ticks per minute for an IBM-compatible computer's system timer when the computer system is executing under DOS. The Initialize function also calculates MaxIntervals, which sets the maximum number of intervals the Tracker program will count before disabling itself. In the preferred embodiment, MaxIntervals is equal to 90,000 minutes (1,500 hours) divided by IntervalMinutes, so that the Tracker program will log time for the first 1,500 hours the computer is on, and then stop."

In other words, IntervalTicks corresponds to the number of ticks required per interval. Mulholland's TSR uses the IntervalTicks as calculated in this initialization step in the TicksLeft variable, as seen below:

"If the DosTimerExecuting flag is not set, the DosTimer function then decrements the TicksLeft variable at a step 306, and then checks whether it has reached zero yet at a step 308. Because TicksLeft was initialized to the value of IntervalTicks, when TicksLeft reaches zero, one interval has elapsed. If the TicksLeft variable is not zero, the DosTimer function returns control to the interrupt calling function at the step 302. If TicksLeft is zero, the DosTimer function sets the DosTimerExecuting flag at a step 310, resets TicksLeft to IntervalTicks at a step 312, increments IntervalCount at a step 314, and then sets the DoUpdateFile flag at a step 316. " (col. 6 lines 51-62)

In other words, the DosTimer function of Mulholland sets a DoUpdateFile flag when the IntervalCount has been reached. However, the DosTimer interrupt routine of Mulholland does not operate to call the target function directly. When the DosIdle interrupt service routine is called and executed, it checks for the DoUpdateFile flag, which if set, will initiate updating of a log file. In other words, the updating of the logfile is not called until the DosIdle function is called, which occurs whenever the DOS system is idle and the DOS IDLE interrupt is generated. In contrast, in claim 23, the method checks if a predetermined time has been reached. If the predetermined time has been reaches, then the method operates to execute the target function. In other words, the target function is executed directly from the Start Function. This is patentably different from the system described by Mulholland. Thus, Applicant respectfully submits that the new claim 23 is allowable as currently written. Due to similarity of a new claim 46 to the independent claim 23, similar arguments apply with equal force to independent claim 46.

New Claim 34

New claim 34 recites:

> "The method of claim 29, wherein a timer interrupt is operable to be used by other programs running simultaneously on the computer to call an original function."

The Office Action states that "Regarding claim 11, Mulholland discloses a method, characterized in that a timer interrupt is used that other programs running simultaneously on the computer, in particular, the operating system, use to call an original function (It is inherent that the timer interrupt is used by the operating system to call the original function). Applicant respectfully disagrees.

Mulholland does not teach or suggest using the Timer interrupt to be used by other programs running simultaneously. Mulholland does not disclose a way to have the DosTimer and any other interrupt service routines being operable to be called at their respective scheduled intervals. Instead, Mulholland teaches away in:

> "Finally, at a step 128 the Initialize function chains the Tracker program into the DOS timer, idle, and multiplex interrupt vectors, and then terminates and stays resident at a step 130. The process for hooking a TSR program into interrupt vectors is well-known in the art and need not be described here. It is necessary only to note that the Tracker program's DosIdle function is chained into the DOS idle (28 hex) interrupt vector, and that the Tracker program's DosTimer function is chained into the DOS timer (08 hex) interrupt vector, so that the DosIdle function is called whenever the DOS system is idle, and the DosTimer function is called at each DOS timer tick." (col. 5, lines 36-48)

In other words, Mulholland teaches that the DosIdle function is called at each DOS timer tick. Mulholland does not teach or suggest having any other functions being called by the DOS timer tick. In contrast, the new claim 34 specifically states that the timer interrupt is able to call the original function. Thus, Applicant believes that the new claim 34 is allowable as currently written. Due to similarity of a new claim 58 to the claim 34, similar arguments apply with equal force to independent claim 58.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

Section 103 Rejection

Claims 2, 6-7, and 9-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mullholland in view of Lever (U.S. Patent Number 5,977,840. Claims 14 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mulholland, in view of Chih-Hao Tsai (PCTimer: Millisecond Resolution Timing with DJGPP V2 and DPMI), hereinafter referred to as Tsai. Claims 2, 6-7, 9-10, and 14-15 have been cancelled, therefore a further discussion is not necessary.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-47700/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☐ Request for Approval of Drawing Changes

☒ Notice of Change of Address

☐ Check in the amount of $ for fees ( ).

☐ Other:

Respectfully submitted,

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